

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-4 (canceled).

Claim 5 (new): An overcurrent detection circuit which detects an overcurrent when the overcurrent flows to an output transistor including an input terminal to which a supply voltage is input, a control terminal to which a control voltage is input, and an output terminal from which an output current is output, the overcurrent detection circuit comprising:

- a monitor transistor including a control terminal and an output terminal which are connected to the control terminal and the output terminal respectively of the output transistor;

- an output current detection transistor including an input terminal to which a supply voltage is input, a control terminal to which a detection bias voltage is input, and an output terminal which is connected to an input terminal of the monitor transistor;

- a constant current source that generates a reference current;

- a reference transistor including an input terminal to which a supply voltage is input, a control terminal to which the detection bias voltage is input, and an output terminal from which the reference current flows to the constant current source; and

- a comparison circuit that detects an overcurrent when the overcurrent flows to the output transistor by comparing the voltage of the output terminal of the output current detection transistor and the voltage of the output terminal of the reference transistor, and outputs an overcurrent detection signal.

Claim 6 (new): The overcurrent detection circuit according to claim 5, wherein the output transistor, the monitor transistor, the output current detection transistor, and the reference transistor are P-type MOS transistors.

Claim 7 (new): The overcurrent detection circuit according to claim 5, wherein the comparison circuit comprises:

a diode-connected first comparison transistor that is interposed between the constant current source and the reference transistor;

a second constant current source that generates a current that is a predetermined multiple of the reference current generated by the constant current source; and

a second comparison transistor that is interposed between the second constant current source and the output current detection transistor, a control terminal of the second comparison transistor being connected to a control terminal of the first comparison transistor.

Claim 8 (new): A regulator comprising the overcurrent detection circuit according to claim 5, wherein the output transistor is provided between a supply voltage and an output terminal that outputs a predetermined DC voltage, and the regulator further includes a control circuit that controls the output transistor to maintain the predetermined DC voltage by inputting the voltage of the output terminal as feedback and that turns off the output transistor when the overcurrent detection signal of the overcurrent detection circuit is input to the control circuit.

Claim 9 (new): A regulator comprising the overcurrent detection circuit according to claim 6, wherein the output transistor is provided between a supply voltage and an output terminal that outputs a predetermined DC voltage, and the regulator further includes a control circuit that controls the output transistor to maintain the predetermined DC voltage by inputting the voltage of the output terminal as feedback and that turns off the output transistor when the overcurrent detection signal of the overcurrent detection circuit is input to the control circuit.

Claim 10 (new): A regulator comprising the overcurrent detection circuit according to claim 7, wherein the output transistor is provided between a supply voltage and an output terminal that outputs a predetermined DC voltage, and the regulator further includes a control circuit that controls the output transistor to maintain the predetermined DC voltage by inputting the voltage of the output terminal as feedback and that turns off the output transistor when the overcurrent detection signal of the overcurrent detection circuit is input to the control circuit.